

IN CUG neet-o

The
Concordia Computer
Users' Survival Guide

Volume 1

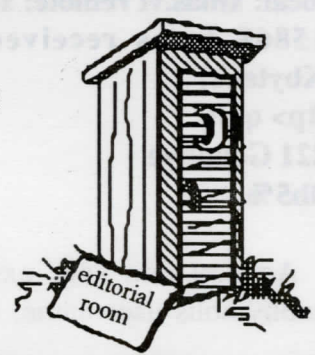
Number 3

MAR/APR '90

At last we meet again, for the long awaited third issue of our newsletter (now renamed 'In-CUG-Neet-o') has finally arrived. This will unfortunately be our final issue for this academic year, but by no means the last you'll be hearing from us. 1990-91 will be a particularly active year, mostly due to the addition of energetic rookies to the staff. Also contributing to CUG's exposure, the unveiling of our very own Bulletin Board System (See the BBS article). Equally popular should be our proposed low-cost consulting services for academic departments.

And now for our menu: as an hors d'oeuvre, from our regular "Macolumn" we have a delightful piece on font wars which demistifies the much-told tale about single-sized fonts. Then, as an entree, we have an article from "From me to Unix" which is the second part of last issue's FTP primer. For our main course, we suggest either our "Hints on UNIX (system v)" which explains how to configure your own unix terminal environment (VT100, VT-102, VT-200...), or (from "Cables and Bits") we have a piece on Computer Networks. Last but not least, "PC ABC" has some exquisite PC utilities. For dessert, we suggest Jargon and/or our new section: Paranoia.

So sit back, and bon appetit!



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Macolumn.

→ ATM vs System 7.0!

BY JEAN-PIERRE DODEL

adobe Type Manager is a utility that automatically scales fonts at any size based on PostScript outline fonts. Until now, you needed both, outline and bit-mapped fonts if you wanted a WYSIWYG representation of type on-screen or on a non-PostScript printer such as the dot-matrix ImageWriter II, Hewlett-Packard's DeskWriter, or Apple's

LaserWriter SC. Because of their mathematical definition, each font type is defined by a single size which, as you can figure out, saves a huge amount of disk space and RAM.



System version 7.0 is expected to be released around June 1990 and will include as part of the new features, the one-size font technology. Therefore, will system 7.0 make ATM redundant? Probably not. System 7's font outliner will work only with Apple's new SFNT fonts. And compared with ATM, Type Manager uses less disk space as well as RAM, and ATM runs on a 1-Megabyte Mac with System 6.0 or later; Apple comparable outline-font technology will require 2 Megabytes of RAM.

A Moreover, Adobe's new little wonder "Type Align" is a very good reason for using ATM fonts or compatibles: Type Align takes ATM fonts over the limits, by creating a DRAWing environment over the typefaces. In other words you can slant, distort,

FROM ME TO UNIX

A UNIX Tutorial (part 2)

by Kiron Bondale

(...Continued from last issue)

...Here is an example of receiving a file from uunet.uu.net :

```
db5% ftp uunet.uu.net
Connected to uunet.uu.net.
220- uunet FTP server (Version 5.81 Wed Jan 3
18:32:10 EST 1990) ready.
220 please get X11.R4 from ns.uu.net
(192.48.96.3) instead of here. Thanks.
```

Name (uunet.uu.net:kiron): anonymous
331 Guest login ok, send ident as password.
Password:

230 Guest login ok, access restrictions apply.

ftp> hash

Hash mark printing on (1024 bytes/hash mark).

ftp> binary

200 Type set to I.

ftp> get xmas.vt

200 PORT command successful.

150 Opening data connection for xmas.vt
(132.205.4.8,1649) (15868 bytes).

#####

226 Transfer complete.

local: xmas.vt remote: xmas.vt

15868 bytes received in 0.54 seconds (29
Kbytes/s)

ftp> quit

221 Goodbye.

db5%

As you can see, except for the use of the anonymous user name, everything else was iden-

(...Continued from page 2)

apply conventional styles, etc. and insert the text inside any document on 90% of the applications now available (word processors, spreadsheets, databases, cads, DRAW programs, etc.).

Because the modified text is given a new format and therefore cannot be recognized as text by applications, Type Align manipulates it in a STRUCTURED format which can be saved as either a PICT, Adobe Illustrator, or EPS (Embedded PostScript) file. The "structured" format simply means that the printing resolution of your modified text will not be limited to your screen resolution, therefore your output on a laserwriter, for instance, will be as sharp as if the text was actually in

Can you see any jaggy letters around this curve? Meet eye?

PostScript fonts. Here are two examples of what you can create with Type Align and ATM fonts. The one below is a "freehand" defined text line.

Hello there!

But let us not be too impressed by these examples and forget about System 7.0's outline fonts, we still don't know exactly what's coming in it. But one thing is for sure and it's that you can start getting rid of your boxes of fonts, deleting your bit-mapped typefaces installed in your system file (or in "suitcases"), even PostScript fonts because, as I said before, when this next generation of "structured" fonts are bit-mapped, the printing quality remains perfect.

Aren't macs fascinating?



(...Continued from page 2)

tical. Naturally, however, since a longer distance is involved, the file transfer will take a little bit longer.

Well that's about all for now. Next time we'll take a peek at how to man woman (Yes you read correctly).

So long, and always remember :

The shortest distance between two programmers may involve an IBM, but it is certainly not the most interesting!



Hints on UNIX system V

• by Stephane Matis •

Many students now use the computer facilities from the comfort of their own homes. Although 1200 baud modem based communication is relatively slow, it is usually not the user's main concern.

Unix is an environment where everything can be customized to the needs of the user. One just needs to know where to find help. The Unix command 'man', typed in lowercase, is usually the first step in acquiring information. Unfortunately, 'man' only covers certain aspects of the Unix system.

(Continued in page 4...)

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One trouble most of you may have, is the inability to use full screen editors from an indirect communication, such as a modem. The answer to this problem lies with TERM.

TERM is a variable that describes your terminal. When programs like 'emacs' or 'vi' are starting-up, they verify the value of TERM, so as to change their output to suit your terminal. Most UNIX systems do not automatically define TERM. Since much of the software uses this variable, you should set it.

Your .profile files should contain the following lines :

```
TERM=ansi
stty -tabs
export TERM
```

Here, 'ansi' is just one of the options. Many other terminals are supported by TERM. Others are as follows :

```
# DEC VT100, VT102, or VT200  => TERM=vt100
tabs
# HP 2621                    => TERM=2621
tabs -Thp
```

The second line, 'tabs', is there to set the particular way a tab will be performed. The third line 'export TERM' is an indicator to all the subshells to inherit TERM.

Note : The TERM variable works under Unix Sytem V release 3 and others. If it doesn't seem to work for your particular system, check your documentation.

Another "popular" problem on Unix is the interruption of background processes when one logs-off. Unix was designed to run multi-tasking and be able to run certain operations constantly in the background. Then why doesn't it run your applications in the background, until finished, if you log-off? Well, it can... just precede your background operation with the term 'nohup' (for no hangup).

Example :

```
$ nohup spell english.british.txt -b
```

CUG's ^{new} BBS

A BBS is a Computer message bulletin board that you can call via modem. It is a dynamic communication method in that it allows you to post messages in an interactive way. That is, you can post messages to everyone or to a specific person and carry on a dialogue on any topic, ranging from anything such as an exchange of books or gossip about movies. Depending on your interests, you can access different message areas that are specific to your interest. At present, our bbs has message areas for book exchanges, a variety of programmer message areas, a movie review section, a latest wine and cheese/beer bash section, and a general chat base. In addition, the bbs will post bulletins about topics of interest to the Concordia community.

The bbs is simply another way in which we, at CUG, hope to enrich the fine assortment of information distribution available to the computer using students in our Concordia.

[the '-b' is optional and pertains to British rules of spelling].

To verify that the process is working, even after you have logged back on later [if it is a very long job], just type

```
$ ps -af
```

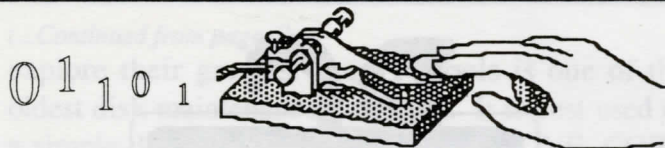
['ps' (for process status)]

['-af' options indicate (for all & full)]

Now, you won't have to wait for a large compilation or another job.

For more information on the previous commands, you may use 'man' in the following format:

```
$ man ps
```

CABLES AND BITS

WHAT'S IN A NETWORK?

-by Tim Lapin-

By now, most people who have used any one of Concordia's computing systems have been introduced to a network. They have used shared libraries and programs, they have sent printouts to the same printer and they might have sent each other mail. All the while the most important part of the system, the network, lay buried under a massive and seamless interface. In this article we will explore the various kinds of networks and their relative

means that if person "A" wants to boot up person "B"'s copy of Wordperfect, he has to go over and manually insert whatever disks are necessary. Further, as of now, there exists no ethernet (high speed net) printer sharing system.

The next level up is that of peer-to-peer networking. In this case, we can have printer AND file sharing. They also exist on high speed networks such as ethernet configurations. Each individual computer on the network is now called a node. Each node can now be a "server" to the others for certain files. This system is a distributed one and is sometimes referred to as a client/server system. That is because just as you may be a server to someone, you are also a client of someone else's machine. Further, one can be a pure client if one chooses. The big drawback is that it leads to duplication of software as usually there can only be one person using any one given copy of a program or file, and the PC must be on. Also, data integrity is an issue. If more than one copy of a given file exists, one person must be chosen to be the "keeper"

complexity and place in the network heirarchy.

The simplest network is the sharing of a peripheral device, such as a printer. A box is attached to both the peripheral and all the computers that desire to reach the peripheral. The box itself is just a switch. It can be either a manual switch or an automatic switch which needs some software and memory to handle the incoming print requests. As an example we will use printer sharing on PCs with an automatic switch:

Person "A" sends a job to be printed by calling up a print screen and choosing which one of possibly many printers to print to. He then sends his job to the printer. Meanwhile person "B" has also chosen the same printer and sends his job. So the switch buffers the second job in a "print queue" until the switch has finished processing the first job.

As can be seen by the description, the abilities of this kind of networking are limited. There is usually no file transfer and certainly no file sharing. This

of the file so as to always have an uncorrupted and up-to-date version of it:

Person "A" has a copy of Wordperfect visible to rest of network. Person "B" sees that it is free and starts it up. Person "C" sees that it is now busy (by "B") and tries to get at "D"'s copy. Person "D"'s machine is off and is unreachable so "C" is out of luck. Person "E" starts up his private copy of Wordperfect and edits his copy of the same file that "B" is editing. "E" overwrites "B"'s finished copy and loses all of "B"'s changes by copying it back to the same location as "B" just used.

The above illustrates the value of caution and teamwork!

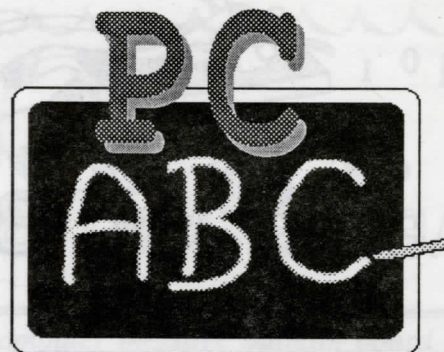
The final type of network layout is that of the centralized server. There is only one server and all other nodes are clients of that server. This means that there must be multiple access versions of software and data files, most if not all in a read only mode. This assures data integrity while updating

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crucial data files. This system is older than the above distributed system and is usually simpler to implement. As it combines printer sharing and all of the file transfer and sharing capabilities of peer-to-peer systems it remains the most powerful and common implementation of large networks. An example would be our NESTAR PC networks. A central server has all the programs that a student accesses when he selects from a menu presented at login.

Networks are getting more sophisticated all the time, with the bulk of the new research being done on distributed systems. No doubt they will be someform of hybrid of pure distributed and centralized networks. So we can expect some very interesting systems in the years to come.

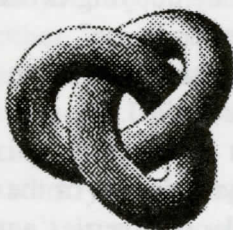


PC Utilities or "Please help me, I erased my term project!"

by Chris Normandeau

There are a number of utilities available for recovering from a major disaster. The three most important and most popular are PCTools, Norton Utilities and the newest, Norton Disk Doctor. These are tools that can save you a lot of effort in retyping or pleading with your professor. In this article, I will

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explore their greatest uses. PcTools is one of the oldest disk maintenance programs. It is best used as a simple disk managing tool. It can MOVE, COPY and DELETE files and directories with the greatest of ease, along with a host of other usefull functions.

One of its best functions, is the ability to easily and quickly undelete a file which has been deleted by most deletion methods. As long as the space which the file occupied has not been used by another file, then it is usually possible to retrieve the file. If some of the space has been used or something has ruined the space then PcTools cannot help, instead Norton Utilities must be used.

Norton Utilities (NU) is best suited for unerasing files and giving a low level view of a disk. For erased files who's space has not been ruined, NU can easily retrieve them. But if the file has been disturbed and it is an ASCII or DOS TEXT file then you may be able to recover a portion of it. It must

be ASCII because the way you recover the file is to select one cluster at a time, BY SIGHT!, to add to the file. Unless you can read hexadecimal garbage, it is highly unlikely that you could recover a file from Lotus, word processors, .EXE and .COM and other binary type files. NU allows you to browse through the inner data of the disk. With this, you can also see viruses which have infected your disks or places where the disk has gone bad.

Norton Disk Doctor (NDD) is one of the newer products on the market, but it is quickly gaining a reputation as a saviour. It is one of the most sophisticated programs around. It can sense a huge variety of problems with all types of drives. A regular check will take it through the File Allocation Tables (FAT), the boot sector of the disk, the section of the disk that describes all the disk's attributes, and all other areas.

It will check for bad files and sectors and clusters, check for lost files and irregularities in the disk data. It can even repair or revive disk partitions which have been lost due to a DOS problem. It does this last item very well as I have had personal experiences with this.

One warning for NDD is that some of these functions where it asks you if you want to correct the problems it detects may do serious harm to the disk. If it asks you for something that is rather serious, make sure that all other paths are exhausted before you give it the OK. It is not infallable and has a marked weakness in the area of disks which read fine in some drives and not in others. It usually really messes these up.

A warning to those of you with portable computers. The drives in these computers tend to be misaligned because of being moved around so much. The disks you use in it may not work with a drive that is tuned at a different speed. Do not assume that the disk is bad, instead keep your drive tuned at all times.

WE NEED
YOU!



Yes, CUG is presently recruiting members with all kinds of talents!

So drop by our office at anytime and join the group!

(Page 10: "Getting THERE")

PARANOIA

A NIGHTMARE IN LAB A

*He walked into the room solemnly...
As if it were a sacred temple,
A place where worshipers gather
But this night, all but he had left...
Fate intended for him to be alone,
Alone in his fight against evil.*

*He sat in front of the machine...
A martian landscape would have seemed more familiar...
Nervously, he entered the passwords,
Like runes to activate ancient magic...
Upon the last keystroke, the spell was cast
And from the depth of the hard drive
The demon finally summoned.*

*Furiously, it spits lettering across the screen
In a fiery red that almost turns him away...
But his hands remain at the keyboard
As he speaks to the beast in its own tongue,
In a Language that though modern
Would be more fit spoken by men in robes.*

*In haste he proceeded, time too was his enemy
For the machine's minions would soon be upon him
So he commanded this evil son of man
In the mystical High-Level language
Of which he had become an apprentice
But he was not yet a true master of the craft
And this creature would show no mercy.*

*He first defined the magic components
Then the pentagram, structure of the spell...
His foe smiles, sending a shiver through his body
Then it strikes back, misunderstanding syntax,
Refusing to acknowledge identifiers, loosing files,
Mismatching types, and declining operators.*

*For every error corrected, it created three...
When he looked at the time piece on the wall
He would see the minutes draining away like seconds
Back to work he went, but no ground was gained
Perhaps this task was beyond his skills...
He sat exhausted, too much to do, too little time.*

*His head pounding, coherent though made impossible
Time running out, and an enemy too strong
And still he reaches for the keyboard...
The eyes narrow as he summons all left of his concentration
For perseverance, man's most noble quality
Would not allow him to give up so easily.*

*The beast was amused, then worried, the angered
What it first saw as a futile display of stubbornness
Was turning into a fruitfull attack,
For an instant it had underestimated its adversary...
The keyboard clicked at an infernal rythm
The adept in a trance, enlightened, all was clear
The creature screams in agony as the spell compiles
Throwing an input error in an act of desperation.*

*But calmly the apprentice corrects his mistake
And then draws closer to the screen
Looking the beast strait in the eyes as he speaks
"You looked upon thee as prey, but behold thy master
For I shall cast ye back to the abyss
From whence you came" and he pressed the key.*

*The demon was thus finally defeated,
Man emerging victorious against his creation
What say you now machine he exclaimed,
Throwing his arms in the air, exhilarated
As if reaching out to the stars
WHAT SAY YOU NOW!!!*

That's when the power went out...

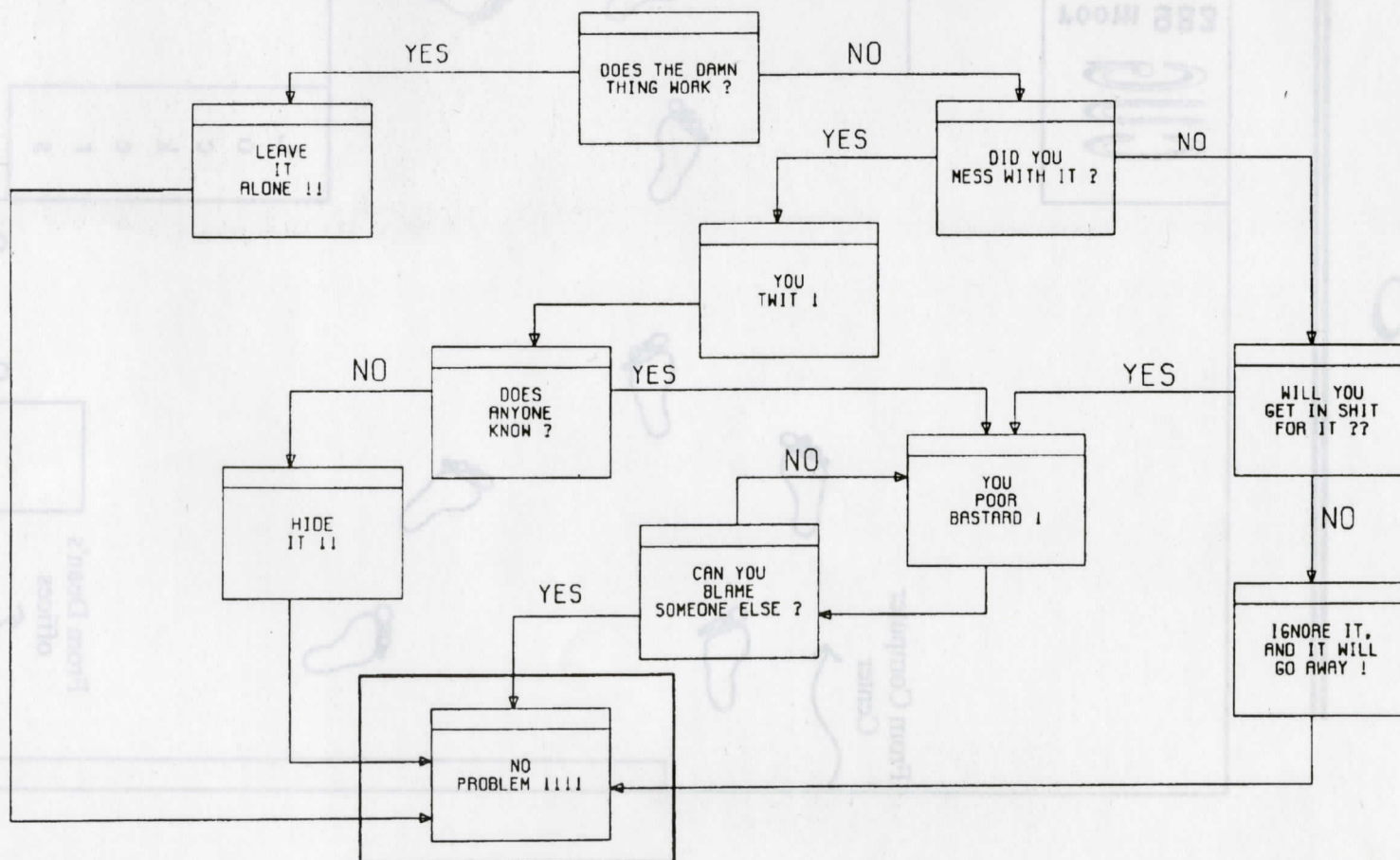
*For a very long time, he sat there...
In the dark, arms still in the air...
Wondering why he had not saved his file...*

- Manuel Deschambault

All characters and events in this story are fictional, any similarities with students racing againsts the clock to complete a pascal assignment is purely coincidental.



Problem Solving Flowchart



Getting There

